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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,675	10/29/2003	Bernard Bon	A34252-I - 070337.0358	5043

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EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

MAIL DATE	DELIVERY MODE
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05/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/695,675

Applicant(s)

BON, BERNARD

Examiner

Hai Vo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-15 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-15 and 17-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Rejections of claims 7-9, and 24-28 over Mizata et al (H1870) are withdrawn because Mizata does not disclose an expandable blank comprising water. However, rejections of other pending claims based on Mizata are maintained.
2. The art rejections over Sahnoune et al (US 6,787,607) and Park (US 5,567,742) separately are maintained.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 12, 14, 17, 19, 21, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizata et al (H1870). Mizata discloses a cross-linkable,

expandable filling material comprising butyl rubber which is a copolymer of isobutylene and isoprene (column 2, lines 65-66), 30 phr to 50 phr silica, carbon black and 4 to 10 phr chemical blowing agent (tables 1 and 2). The filling material is mounted on a wheel rim as shown in figure 1. The filling material has a closed cell structure (abstract). Mizata discloses the steps of making a foamed filling material (column 4, lines 50-57). Accordingly, Mizata anticipates the claimed subject matter.

6. Claims 11, 13, 15, 18, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizata et al (H1870) as applied to claim 7 above, and further in view of Nohara (US 6,135,180). Mizata does not teach the use of azobisformamide as a blowing agent which is present in an amount of from 15 phr to 30 phr. Nohara, however, teaches a foamed rubber composition for tread and pneumatic tire comprising azobisformamide as a blowing agent which is present in an amount of from 0.5 to 15 phr (column 4, lines 20-25 and 29). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the blowing agent in the range instantly claimed motivated by the desire to obtain a tire tread which is excellent in a performance on ice, abrasion resistance, tear resistance and crack resistance.
7. The art rejections based on Mizata have been maintained for the following reasons. Applicant argues that Mizata does not teach or suggest the expanded blank comprising a blowing agent after being expanded. The examiner

respectfully disagrees. The blowing agent is present in the expanded blank in an amount of 4 to 10 phr (tables 1 and 2).

Applicant further argues that the expanded blank of Mizata does not contain water. The arguments are not found persuasive for patentability. Claim 10 is directed to an expanded blank which would not contain water because water is completely removed from the expanded blank through evaporation by heating, and drying process. Water and its content are thus found irrelevant to the expanded blank.

Applicant contends that the examiner fails to point out where in the prior art the foamed product still contains azobisformamide. It has been known in the foam art that when a chemical blowing agent is used for forming the voids, the foam material contains residues from the chemical blowing agent after expansion. Therefore, the voids of the Mizata expanded product would contain residues from azobisformamide after foaming action.

8. Claims 7-10, 14, 17, 21, 23, 24 and 28 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sahnoune et al (US 6,787,607). Sahnoune discloses a cross-linkable, expandable resin composition comprising EPDM rubber or butyl rubber which is a copolymer of isobutylene and isoprene (column 3, lines 5-20, table 1). Turning to example 5, tables 2 and 3 of Sahnoune:

EPDM (wt%)	49.7
Blowing agent (wt%)	1.8

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Blowing agent (phr)            3.62 (1.8x100/19.7)

When the blowing agent is a combination of water and a water generating material (claim 9), water and the water generating material each would be present in the rubber composition in an amount of 3.62 phr or less. The resin composition includes carbon black and silica in an amount of 11.9 wt% or 23.8 parts by weight based on 100 parts by weight of elastomer (table 2, column 3, lines 35-36). Sahnoune discloses the foam having high cell density, smooth surface and low water absorption. Likewise, it is clearly apparent that the foam would inherently have a closed cell structure for low water absorption when submerged in water. Claims 7-9 do not require a cellular support be part of a cross-linkable, expandable blank, therefore, any limitations associated with the support are not required by the claims. Sahnoune does not disclose the resin composition useful as an elastomeric safety support. It has been held that a recitation with respect to the manner in which a claimed blank is intended to be employed does not differentiate the claimed blank from a prior art resin composition satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

With regard to claims 10 and 11, the claims are directed to a cross-linked expanded elastomeric support. It appears that water is completely removed from the cross-linked expanded elastomeric support through heating, and drying process. Water and its content are thus found irrelevant to the cross-linked expanded elastomeric support.

Turning to example 5, tables 2 and 3 of Sahnoune

EPDM (wt%)	49.7
------------	------

Blowing agent (wt%)	1.8
---------------------	-----

Blowing agent (phr)	3.62
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Water absorption (test	
------------------------	--

B)-Atmosphere (wt%)	1.8
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Water absorption (test	
------------------------	--

B)-Atmosphere (phr)	3.62
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The blowing agent is present within the claimed range in the expanded support. Additionally, the water absorption test indicates that water being absorbed by the expanded support is about 1.8% by weight or 3.62 phr. This would read on Applicant's water in the range from 3 to 6 phr.

Sahnoune does not teach the foamed structure being capable of being mounted on a wheel rim. However, since the foamed structure is made of a composition similar to the composition of the cellular support of the present invention, it is the examiner's position that the foamed structure would be substantially, inherently capable of being mounted on the wheel rim.

Sahnoune does not specifically disclose the steps of making a closed cell foam structure. However, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the resin composition Sahnoune is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are

formed from the same materials, having structural similarity as discussed above. Even though product-claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the tire of Sahnoune. Accordingly, Sahnoune anticipates or strongly suggests the claimed subject matter.

9. Claims 12, 19, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sahnoune et al (US 6,787,607) as applied to claims 7 and 10 above, further in view of Wang (US 5,939,464). Sahnoune does not specifically disclose the blowing agent could be used in an amount greater than 5 phr. Wang, however, teaches a high elastic foam made from a blend of thermoplastic vulcanizate and an elastic thermoplastic polymer and a blowing agent in an amount of from 0.1wt% to 10wt% based on 100 wt% of the foamed composition.



Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the blowing agent in the range instantly claimed in view of the balance of degree of foaming and mechanical strength of the product (see Wang, column 7, lines 25-30).

10. The art rejections based on Sahnounne have been maintained for the following reasons. Applicant argues that Sahnounne does not teach or suggest an expandable blank comprising water and a blowing agent. The examiner respectfully disagrees. The examiner directs Applicant's attention to example 5, tables 2 and 3 of Sahnounne:

EPDM (wt%)	49.7
Blowing agent (wt%)	1.8
Blowing agent (phr)	3.62

When the blowing agent is a combination of water and a water generating material (claim 9), water and the water generating material each would be present in the expandable blank in an amount of 3.62 phr or less.

Applicant argues that Sahnounne fails to teach a foamed product comprising both water and a blowing agent. The examiner respectfully disagrees. Since claims 10 and 11 are directed to a final product which is a cross-linked expanded material and water will not be present in the final product due to evaporation by heating and drying process, any limitations associated with water impact no definite structure to the claimed cross-linked expanded material and are therefore found inadequate to convey structure in any patentable sense.

Applicant argues that the material has a water absorption of less than 5% does not mean that the water contains water. The examiner invites Applicant's attention to column 6, lines 5-27. The water absorption test indicates that water being absorbed by the foam material is about 1.8% by weight or 3.62 phr (table 3). This would read on Applicant's water in the range from 3 to 6 phr.

11. Claims 7, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Park (US 5,567,742). Park discloses a cross-linkable, expandable resin composition comprising a copolymer of propylene and isoprene (column 2, lines 20-35), CO<sub>2</sub> in an amount of 1.5 gmoles per kg of polymer or 6.6 phr and water in an amount of 2 gmoles per kg of polymer or 3.6 phr (1 mole of water is equivalent to 18 g) (table IVa-continued). Park discloses the blowing agent which is a mixture of CO<sub>2</sub> and water could be used in an amount up to 5 gmoles per kg of polymer (column 3, lines 15, and 50-52). Table IVa-continuous shows that water could be used up to 2 gmoles per kg of polymer. Likewise, CO<sub>2</sub> could be used up to 3 gmoles per kg of polymer or 13.2 phr. The blowing agent is a combination of inorganic agent and chemical blowing agent such as azobisformamide (column 3, lines 15-20 and 44-45). The chemical blowing agent could be present in an amount up to 75% by weight of the total weight of the inorganic and chemical blowing agents (column 3, lines 9-12). The amount of blowing agent incorporated into the polymer melt is about 0.2 to 5 moles per kg of polymer (column 3, lines 50-55). The azobisformamide is present in the amount in the polymer melt of at least  $0.2 \times 0.75 \times 116.1 = 17\text{phr}$ . Claim 7 does not

require a cellular support be part of a cross-linkable, expandable blank, therefore, any limitations associated with the support are not required by the claims. Park does not disclose the resin composition useful as an elastomeric safety support. It has been held that a recitation with respect to the manner in which a claimed blank is intended to be employed does not differentiate the claimed blank from a prior art resin composition satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987). Accordingly, Park anticipates the claimed subject matter.

12. The art rejections based on Park have been maintained for the following reasons.

Applicant argues that Park discloses water is used as blowing agent with or without CO<sub>2</sub>. Park does not teach or disclose an expandable blank comprising both water and a blowing agent. The arguments are not found persuasive for patentability. Since the resin composition meets all the ingredients set out in the claims, there are no differences between the expandable blank comprising water and a blowing agent such as CO<sub>2</sub>, and the expandable blank comprising a blowing agent that includes water and CO<sub>2</sub>.

**Conclusion**

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory

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action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV



**HAIVO**  
**PRIMARY EXAMINER**